Answer sheet for C1 Revision for Test Algebra 1

1. $x_{1,2} = \begin{matrix} -2-\sqrt{3} \\ -2+\sqrt{3} \end{matrix}$, minimum point (-2, -9)

$x_{1,2} = \begin{matrix} -3-2\sqrt{3} \\ -3+2\sqrt{3} \end{matrix}$, minimum point (-3, -12)

$x_{1,2} = \begin{matrix} \frac{3}{2}+\frac{\sqrt{37}}{2} \\ \frac{3}{2}-\frac{\sqrt{37}}{2} \end{matrix}$, minimum point at $\left(\frac{3}{2}, -\frac{\sqrt{37}}{4}\right)$

2. p=6, q=-1, r=-5

3.

$\sqrt{6}-2$

$\frac{1}{2}\left(5+\sqrt{15}+\sqrt{5}+\sqrt{3}\right)$

$\frac{4+\sqrt{10}}{6}$

4.

a) $x,\ y = \left(\frac{1}{4}, \frac{3}{2}\right)$

for b) $x_1,\ y_1 = (2,-3)$

$x_2,\ y_2 = (1,-1)$